

What is claimed is:

1. A signal processing device comprising:

a first signal section detecting means for detecting a first signal section from an input signal including at least the first signal section and the remaining signal section on a time division basis;

a first signal extracting means for extracting the signal in the first signal section from the input signal in accordance with a result of the detection by the first signal section; and

a recording means for recording the extracted first signal.

2. The signal processing device according to claim 1, further comprising a characteristic value extracting means for extracting the characteristic values characterizing the first signal from the extracted first signal, wherein said recording means records the characteristic values.

3. The signal processing device according to claim 1, wherein said first signal section detecting means detects said first signal section from said input signal on the basis of a characteristic pattern of the signal appearing in said input signal at predetermined time intervals and a characteristic value showing the probability of the first signal.

4. The signal processing device according to claim 1, wherein said first signal section detecting means detects said first signal section on the basis of predetermined guide information which is prepared corresponding to said input

signal.

5. The signal processing device according to claim 2, wherein said characteristic value characterizing said first signal is amplitude of the signal in the first signal section.

6. The signal processing device according to claim 2, wherein said characteristic value characterizing said first signal is a spectrum of the signal in the first signal section.

7. The signal processing device according to claim 2, wherein said characteristic value characterizing said first signal is a linear prediction coefficient of the signal in the first signal section.

8. The signal processing device according to claim 2, wherein said characteristic value characterizing said first signal is a histogram of a predetermined component of the signal in the first signal section.

9. The signal processing device according to claim 2, wherein said characteristic value characterizing said first signal is mean value of the predetermined component of the signal in the first signal section.

10. The signal processing device according to claim 2, wherein said characteristic value characterizing said first signal is difference of the predetermined signal component of the signal in the first signal section.

11. The signal processing device according to claim 2, wherein said characteristic value characterizing said first signal is the number of changes of

the state of the signal in the first signal section.

12. The signal processing device according to claim 2, wherein said characteristic value characterizing said first signal is the time of the change of the state of the signal in the first signal section.

13. The signal processing device according to claim 1, further comprising:

an index information extracting means for extracting information to be used as an index representing said recorded first signal; and

a display means for displaying said extracted index information.

14. The signal processing device according to claim 13, wherein said index information is an edited signal obtained by editing said first signal.

15. The signal processing device according to claim 14, wherein said edited signal obtained by editing said first signal comprises a set of signals at the time when the state of said first signal changes.

16. The signal processing device according to claim 14, wherein said edited signal obtained by editing said first signal comprises a signal representing a starting part of said first signal and/or a signal representing an ending part of said first signal.

17. The signal processing device according to claim 13, wherein said index information extracting means extract the signal at a time when the state of said first signal changes.

18. The signal processing device according to claim 2, further comprising a comparing means for comparing characteristic values respectively characterizing different first signals.

19. The signal processing device according to claim 18, wherein said comparing means is detects agreement/disagreement of the first signals in a part of the section or in the entire section by comparing said characteristic values.

20. The signal processing device according to claim 18, wherein said comparing means detects the degree of similarity of the first signals in a part of the section or in the entire section by comparing said characteristic values.

21. The signal processing device according to claim 18, wherein said comparing means performs the comparing operation on a basis of the distance as determined by using a predetermined distance scale between vectors formed at least one of the amplitude of the signal in the first signal section, the spectrum of the signal in the first signal section, the linear prediction coefficient of the signal in the first signal section, the histogram of a predetermined component of the signal in the first signal section, the mean value of the predetermined component of the signal in the first signal section, the difference in the predetermined signal component of the signal in the first signal section, the number of changes in the state of the signal in the first signal section and the time of a change in the state of the signal in the first

signal section.

22. The signal processing device according to claim 13, further comprising:

an index information specifying means for specifying desired index information from said displayed plurality of pieces of index information; and

a retrieving means for retrieving the first signal corresponding to said specified index information.

23. The signal processing device according to claim 2, further comprising:

a retrieving means for retrieving the first signal substantially agreeing with said first signal from said recording means, using said first signal in a part of the section or in the entire section or a characteristic value characterizing the first signal as retrieving condition.

24. The signal processing device according to claim 2, further comprising:

a retrieving means for retrieving the first signal substantially agreeing with said first signal from said recording means, using a part or all of said first signal or a characteristic value characterizing the first signal as retrieving condition.

25. The signal processing device according to claim 1, further comprising:

a measuring means for measuring the number of times and/or the hours of appearances of a same first signal.

26. The signal processing device according to claim 1, further comprising:

a measuring means for measuring the number of times and/or the hours of appearances of similar first signals.

27. A signal processing method comprising the steps of:

detecting a first signal section from an input signal containing at least the first signal section and the remaining signal section on a time division basis;

extracting the signal of the first signal section out of the input signal in accordance with to the result of the detection of the first signal section; and

recording the extracted first signal.

28. The signal processing method according to claim 27, further comprising the steps of:

extracting the characteristic values characterizing the first signal from the extracted first signal; and

recording the characteristic values.

29. The signal processing method according to claim 27, wherein said first signal section detecting step is adapted to detect said first signal section from said input signal on the basis of a characteristic pattern of the signal appearing in said input signal at predetermined time intervals and a

characteristic value showing the probability of the first signal.

30. The signal processing method according to claim 27, wherein said first signal section detecting step is adapted to detect said first signal section on a basis of predetermined guide information which is prepared to correspond to said input signal.

31. The signal processing method according to claim 28, wherein said characteristic value characterizing said first signal is amplitude of the signal in the first signal section.

32. The signal processing method according to claim 28, wherein said characteristic value characterizing said first signal is a spectrum of the signal in the first signal section.

33. The signal processing method according to claim 28, wherein said characteristic value characterizing said first signal is a linear prediction coefficient of the signal in the first signal section.

34. The signal processing method according to claim 28, wherein said characteristic value characterizing said first signal is a histogram of a predetermined component of the signal in the first signal section.

35. The signal processing method according to claim 28, wherein said characteristic value characterizing said first signal is mean value of the predetermined component of the signal in the first signal section.

36. The signal processing method according to claim 28, wherein said

characteristic value characterizing said first signal is difference of the predetermined signal component of the signal in the first signal section.

37. The signal processing method according to claim 28, wherein said characteristic value characterizing said first signal is the number of changes of the state of the signal in the first signal section.

38. The signal processing method according to claim 28, wherein said characteristic value characterizing said first signal is the time of the change of the state of the signal in the first signal section.

39. The signal processing method according to claim 27, further comprising the steps of:

extracting information to be used as an index representing said recorded first signal; and

displaying said extracted index information.

40. The signal processing method according to claim 39, wherein said index information is an edited signal obtained by editing said first signal.

41. The signal processing method according to claim 40, wherein said edited signal obtained by editing said first signal comprises a set of signals at the time when the state of said first signal changes.

42. The signal processing method according to claim 40, wherein said edited signal obtained by editing said first signal comprises a signal representing a starting part of said first signal and/or a signal representing an



ending part of said first signal.

43. The signal processing method according to claim 39, wherein said index information extracting step is adapted to extract the signal at a time when the state of said first signal changes.

44. The signal processing method according to claim 28, further comprising a comparing step for comparing characteristic values respectively characterizing different first signals.

45. The signal processing method according to claim 44, wherein said comparing step is adapted to detect the agreement/disagreement of the first signals in a part of the section or in the entire section by comparing said characteristic values.

46. The signal processing method according to claim 44, wherein said comparing step is adapted to detect the degree of similarity of the first signals in a part of the section or in the entire section by comparing said characteristic values.

47. The signal processing method according to claim 44, wherein said comparing steps is adapted to perform the comparing operation on the basis of the distance as determined by using a predetermined distance scale between vectors formed at least one of the amplitude of the signal in the first signal section, the spectrum of the signal in the first signal section, the linear prediction coefficient of the signal in the first signal section, the histogram of

a predetermined component of the signal in the first signal section, the average value of a predetermined component of the signal in the first signal section, the difference in a predetermined signal component of the signal in the first signal section, the number of changes in the state of the signal in the first signal section and the time of a change in the state of the signal in the first signal section.

48. The signal processing method according to claim 39, further comprising an index information specifying step for specifying desired index information from said displayed plurality of pieces of index information; and a retrieving step for retrieving the first signal corresponding to said specified index information.

49. The signal processing method according to claim 28, further comprising a retrieving step for retrieving a first signal substantially agreeing with said first signal from said recording step, using said first signal in a part of the section or in the entire section or a characteristic value characterizing the first signal as retrieving condition.

50. The signal processing method according to claim 28, further comprising a retrieving step for retrieving a first signal substantially agreeing with said first signal from said recording step, using a part or all of said first signal or a characteristic value characterizing the first signal as retrieving condition.

51. The signal processing method according to claim 27, further comprising a measuring step for measuring the number of times and/or the hours of appearances of a same first signal.

52. The signal processing method according to claim 27, further comprising a measuring step for measuring the number of times and/or the hours of appearances of similar first signals.

53. The signal processing device according to claim 1, wherein said input signal comprises a video signal and/or an audio signal and said first signal covers a commercial message section.

54. The signal processing method according to claim 27, wherein said input signal comprises a video signal and/or an audio signal and said first signal covers a commercial message section.